

Recreation MANAGEMENT

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Expanding Possibilities

Designing Spaces for High School Athletes & Fans

By Joe Bush

The number of participants in high school athletics declined for the first time in 30 years for the 2018-19 school year, but the men and women who design high school athletic facilities are as busy as ever.

In its annual High School Athletics Participation Survey, the National Federation of State High School Associations reported the first decline in participation since 1988-89. The drop of more than 43,000 comes off a record high of nearly 8 million kids; the 2018-19 total is still the third highest since the survey began in 1971.

The nearly 8 million kids engaged in high school athletics need places to play and practice, dress and work out, and today's facilities are a combination of efficiency—multi-sport ability for the benefit of administrations, and community—fan experience, and safety.

The top trend in high school facility design is space that can accommodate sports and other school and community events, said designers interviewed for this story, but there are details within design and construction that have grown in popularity in recent years as well.



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— Seawell McKee

One designer says he's seeing fieldhouses as multipurpose facilities becoming more attractive to school officials, while another notes the surge in netting systems to protect spectators at baseball and softball fields. Athletic training spaces have reflected the move away from weightlifting and running only toward circuit and Crossfit type training, as well as the recognition that different sports have different training needs.

Finally, the way people attend and participate with football games is being factored into the design of the space around the field as schools try to not only enhance the experience for fans and families but also to maximize revenue from ticket sales, concessions, raffles and merchandise sales.

"We're seeing an update to the spectator experience," said Clay Schneckloth, a landscape architect with Snyder & Associates. "You see it in the concessions and restrooms. The sterile block restroom is a thing of the past that people are going away from. The majority of the workers in the concession stand are parents and volunteers, and schools want to provide a little better experience for them to be there too because they're giving their time to support the school."

Seawell McKee, the vice president of business development for Alabama-based McKee & Associates, said fans are a priority when his company starts a stadium project for a school. The amenities and comforts of professional and major college gameday experiences have conditioned high school families to expect certain things on Fridays and Saturdays.

"Traffic patterns, people flow, access to amenities, concessions, restrooms, sometimes small souvenir shops," McKee said. "Most people are wanting their stadiums organized in a way that they flow and it leads to that good fan experience. Easy-in easy-out, all the way from the drive to parking to ticketing to amenities and points of sale. The last 10 years it's become a lot more on the minds of high school administrators."

McKee said he and his colleagues refer to stadiums as "giant moving parks." There has to be parking, walkways, restrooms, seating, open areas for congregation, and good lighting and sightlines. A key difference from parks is revenue generation, and it drives many of the decisions on fan comfort, said McKee.

Souvenir tables have become souvenir stands and booths, separate structures or attached to the concession structure, he said. Concessions themselves have evolved to cooking on site, with all the equipment needed and the space necessary for it.

Fans need to be able to form lines at the revenue areas without blocking the movement of fans in transit. And fans who want one bottle of water shouldn't have to stand in a line of folks who want a burger and fries, said McKee.

All this has to be balanced with the fact that many people who enter the gates on gameday don't really care about the game and need to be accommodated as well, usually away from the bleachers.

"You try to design stadiums around your bleachers, your hardcore patrons, but where does everybody else go that's not necessarily 100% tuned into every play of the football game?" said McKee. "When you make the high school game fun for all age groups in your community, the parents and kids are going to want to come to the game, which means you're going to sell more tickets, you're going to sell more concessions, etc."

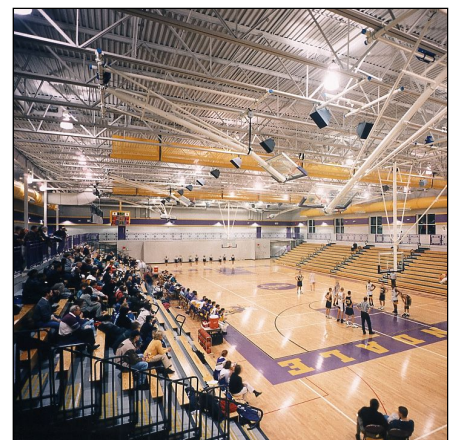


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PHOTO COURTESY OF MCKEE & ASSOCIATES

"The equipment provides a family refuge from confining bleachers to allow the kids to run, jump and move around," said Schneckloth. "In addition, shade trees and canvas canopies can be placed throughout the venue to create smaller spaces for groups to gather. Social gathering spaces allow for people to mingle and relax while maintaining close proximity to gameday viewing."

This fans-first philosophy becomes a safety topic when the facility turns to baseball and softball.

Fans at football games are rarely in danger from flying footballs, but the need to pay attention pitch by pitch at baseball and softball games because of the frequency of foul balls is not only common sense but is national news several times a season when people are hurt by line drives.

The debate about fan safety versus fan experience when considering the extension of netting down the baselines led all 30 Major League Baseball teams to increase their netting from behind home plate to the end of each dugout. Some teams have gone further, with the Chicago White Sox featuring netting from foul pole to foul pole.

Schneckloth said his firm has seen a rise in requests for netting systems from high school clients.

"The last three and four years a lot of the bigger schools have made the change," he said. "Some of the smaller schools are now heading that way."

Netting can easily be retrofitted, said Schneckloth. Support posts for the netting are either placed in line with the net or back behind the bleachers. Netting systems are available that work with either type of bleachers, those elevated above the ground or those at grade, he said.



PHOTO COURTESY OF SNYDER & ASSOCIATES

Another way to add to the spectator experience is to build themes with colors and logos, said Schneckloth. Customization starts with using vinyl-coated or decorative picket fencing instead of standard galvanized fence. Also, restrooms and concession stands can be improved with the use of tile and soft lighting in place of concrete blocks and fluorescent lights.

"Even something as simple as decorative concrete or pedestrian pathway lighting can make a difference," Schneckloth said.

Illumination plays a crucial part in today's high school facilities design above and beyond safety and visibility for fans. The days of large, metal halide lights soaring above stadiums are fading as LED technology becomes more affordable, said Schneckloth. As with netting, with professional franchises making the switch, high schools are following.

"LEDs are still more expensive initially, but the cost of long-term maintenance is lower, and they offer greater longevity and increased functionality," said Schneckloth.

Metal halides need at least five minutes to warm up and reach maximum brightness, said Schneckloth, wasting energy. LED lights not only save energy, they turn on instantly and offer a more uniform source of light.

Schneckloth said the use and popularity of LED isn't limited to overhead lights.

"With the ability to do animations, replays and advertising, many fields are also switching to LED scoreboards," he said.



PHOTO COURTESY OF MCKEE & ASSOCIATES

Administrators should think about their stadiums in terms of hosting community social events instead of athletic events; they don't need 5,000 seats if 2,500 people want to hang out and chat and drink some hot chocolate or play a mini football game of their own. Areas for these folks to gather should be designed in—plaza-type spaces that don't interrupt any traffic flows.

— Seawell McKee

Scott Klaus, a design architect with Stantec, said the two principles—theme and LED use—can be combined. His firm has been building facilities in Texas for use by multiple schools, and to make each school's gameday usage special, lights are combined with color tailored to the home team's colors.

Klaus said the multi-school facilities are meant to serve school districts who pool money to have a much nicer facility together than they would alone. While his firm has designed a \$70 million high school stadium that has hosted Division II college playoffs, that's an outlier. There are simple ways to save money, he said, starting with reducing the number of seats.

Depending on the jurisdiction's policies, capacity numbers reach a threshold that triggers requirements for plumbing and parking, said Klaus. Keeping seat totals below those thresholds can save on plumbing and parking costs. Also, concrete seating costs more than aluminum.

"We really like to get involved before budgets are set so we can help them establish a good budget based on their desires," said Klaus.

The multipurpose buildings Klaus designs include athletic space for games, practices, locker rooms, meeting rooms and coaches' offices, and also space for community events such as fundraisers, board meetings, banquets, weddings, concerts, graduations and birthday parties. Klaus said education is becoming an attractive use for the spaces as well, and part of the pitch.

Career technology examples in buildings Klaus has helped design include sports medicine, kinesiology and athletic training, and using press boxes, radio and video broadcasting.

"Not everybody's going to college," said Klaus. "We do a lot of career technology centers and really thinking about the integration of those different career paths with these facilities. As these facilities become more like classrooms and less like sports facilities, they can become more multipurpose and add more value to the community."

Two-story press boxes serve not only their main function but just like at the higher levels of athletics can provide revenue with seating and functions on non-gamedays, Klaus said.

Klaus said another trend he's seeing with non-gameday facilities is underground rooms. Because there is less space available for building footprint, locker rooms and weight rooms can be located under gyms.

David Larson, senior vice president at TMP Architecture, said gyms are not just considered auxiliary activities to the more important academic activities going on, they are integral parts of an academic career. Though it's romantic and nostalgic to want a basketball gym similar to the one in the movie Hoosiers—small, with the home crowd close and influential to the action—those spaces are not much use for other activities.

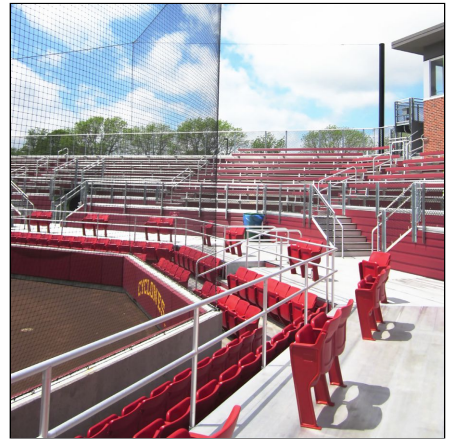


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"There are a lot of coaches and a lot of districts out there that want that, but they also want it to function as a multi-use space," Larson said. "They also want to have assemblies and band concerts and college night. The older gyms didn't do other things well. If you make it perfect for basketball but not other things, I'm not sure that's a good value at the high school level."

Larson said to be more welcoming, there should be as much natural light as possible. The acoustics should be maximized with materials like Tectum and acoustical banners made of fiberglass. This cuts down on echo and ensures that non-sporting events can use the sound system as well, he said.

"The goal is to reduce the reflection of sounds around the space," Larson said. "The reflection causes it to sound loud and muddy, and the (public address system) becomes unintelligible."

Sustainability is a priority, Larson said, and that begins with the materials used. For gyms, one of the most recognizable and central is the floor—wood or synthetic? Larson likes maple flooring harvested in a managed forest, for instance.

"It's the great debate, and there's a lot of subjectivity involved," he said. "Maple floors are like forever floors. You can refinish it and it will last many years. Synthetics are great but they will show wear patterns and are harder to refinish. Unless you go to the expense of putting a suspended substructure under synthetics, you're not going to get as much cushioning."

"You might as well buy the wood. If the rebound of the ball is important to you and if the preservation of your legs is important to you, you want a cushioned floor and you can accomplish that with wood material or a manmade material, but you will spend as much for (synthetic) as you would for wood, so go wood. It's a 50-year floor."

Other ways to save energy and money are in the materials, too, said Larson. Robust insulation and glass that has evolved with specialized coatings and inert gas between panels are the norm today.

McKee said the most significant change he's seen in the past couple of decades is with fitness for athletes. The days of only weight training and sprinting are well past, he said, in favor of multiple training methods including high-intensity interval training (HIIT), Crossfit, plyometrics and stretching.

"Having flat floor space to do those types of conditioning is the biggest growth area we see in the design of strength and conditioning," McKee said. "Station to station work, box jumps, jump ropes."

Not only is the space used differently, it can change to suit the needs of different sports. Golfers don't train like soccer players, who don't train like volleyball players.

"We sit down and we customize strength and conditioning space based on the coaches' wishes and desires," said McKee. "There's lots of moving parts in today's high school athletics as more sports come online." RM



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